Trend Study 25B-5-04

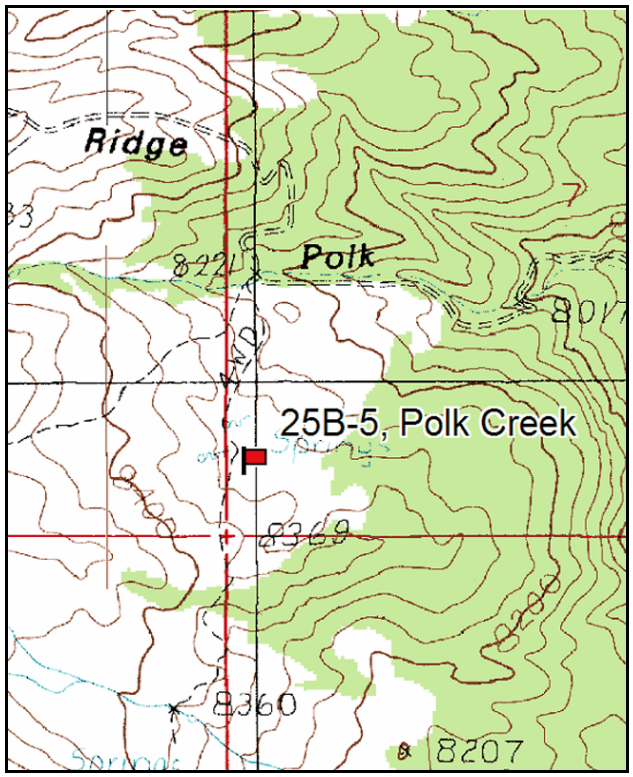
Study site name: Polk Creek . Vegetation type: Mixed Mountain Brush .

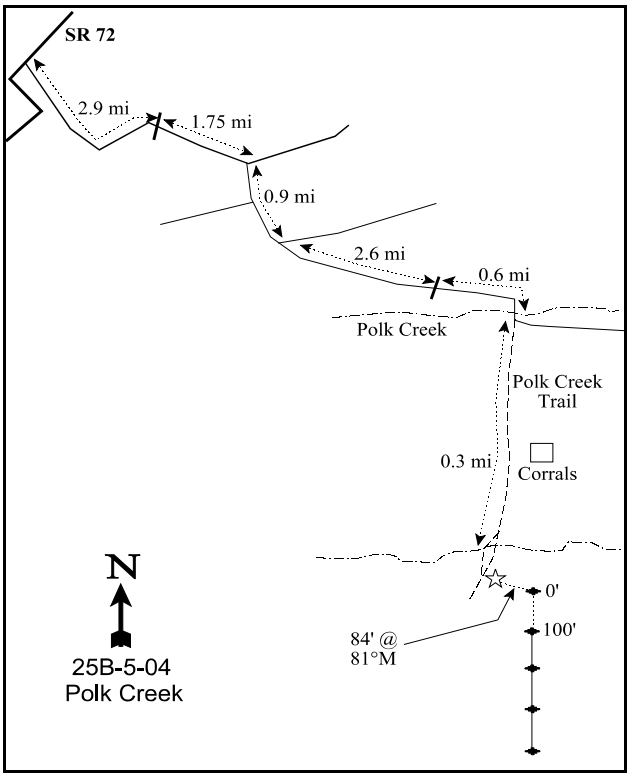
Compass bearing: frequency baseline 165 degrees magnetic.

Frequency belt placement: line 1 (11& 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

Travel north from Fremont on SR 72 for 7.3 miles to the Elkhorn-Torrey Road. Turn right and go 2.9 miles to a cattleguard. From the cattleguard go 1.75 miles to an intersection by Heart Lake. Take the right fork (#206) and go 0.4 miles toward Cathedral Valley. At the intersection, turn left (#22) toward Cathedral Valley. Proceed 0.5 miles to another fork (Round Lake turnoff). Stay right and go 2.6 miles to a cattleguard. From the cattleguard, proceed 0.6 miles down to Polk Creek. Immediately after crossing the creek, turn right on the Polk Creek Trail. Go 0.3 miles past a camp and some corrals on your left to another creek. Cross the creek, then look 110 feet beyond the creek (along the left fork of the road) for a steel rebar witness post on the left side of the road. The frequency baseline of the study starts 84 feet east (81°M) of the witness post. The 0-foot baseline stake has a red browse tag #7060 attached.





Map Name: Flat Top, Utah

Diagrammatic Sketch

Township 27S , Range 5E , Section 7

GPS: NAD 27, UTM 12S 4257776 N, 463973 E

DISCUSSION

Polk Creek - Trend Study No. 25B-5

The Polk Creek study is on the east side of Thousand Lake Mountain. The transect begins on nearly level ground and then gently slopes (10%) toward a northern aspect. The vegetation type is mixed mountain brush. Although the site is moderately high at 8,310 feet in elevation and probably above the limits for a severe winter range, it is still utilized moderately by deer in winter. The pellet group transect in 1999 indicated that there was 20 deer days use/acre (49 ddu/ha), 7 cow days use/acre (18 cdu/ha), and 1 elk days use/acre (2 edu/ha). Data from 2004 estimated 66 deer days use/acre (162 ddu/ha), 5 elk days use/acre (12 edu/ha), 1 moose days use/acre (2 mdu/ha), and 6 cow days use/acre (14 cdu/ha). As part of a three pasture, rest-rotation system on the Thousand Lake Cattle Allotment, the Polk Creek unit is grazed the first half of the season one year, the last half of the next season, and rested the third year.

Soil depth is variable, depending on the location on the slope. Effective rooting depth varies from shallow (8-10 inches) and rocky on the slope, to 16-18 inches with good litter cover in the flat (first hundred feet). Overall, average effective rooting depth is 11 inches. The soil has a neutral pH (6.8) and a sandy clay loam texture. There is some erosion, especially along washes and trails near the bottom of the slope. The ratio of bare ground to protective cover (vegetation, litter, and bare ground) has increased from 1:2.7 in 1994 to 1:3.8 in 2004, which is good. Soil erosion was classified as stable in 2004.

There is a variety of browse species present, with black sagebrush and bitterbrush being the key species. Bitterbrush is the species with the highest utilization. Use has been moderate to heavy with nearly each reading. In 2004, nearly all plants were classified as moderately or heavily utilized with many only being partially available. Cover has been between 10-15% since 1994. Density was 34% higher in 2004. Decadency was slightly up, but only by 16%. No young or seedlings were encountered in 2004. Seedlings were especially abundant in 1985. Bitterbrush on this site are a prostrate form, averaging a little over one-foot in height with a crown of more than three feet. They appear to spread by layering. Black sagebrush cover was about 15% in 1994 and 1999, but decreased to about 10% in 2004. Density was stable in 1994 and 1999, but declined 28% in 2004 to 6,580 plants/acre. Decadency has been stable with each reading at about 34%, but percent dying increased to 20% in 2004 from 11% in 1999. Utilization has been light on black sagebrush. The number of seedlings found in 2004 was high and the percent young (9%) was good. Other shrub species include broom snakeweed, rabbitbrush, snowberry, gray horsebrush, squawbush, and a few basin big sagebrush. None of these displayed more than light to moderate use and appeared to have stable populations. Broom snakeweed density increased by 74% in 2004.

Pinyon pine cover has increased with each of the last three readings and was over 12% in 2004 using the line intercept method. Pinyon density was estimated at 199 trees/acre in 1999 and 236 trees/acre in 2004 using the point-quarter method. Mean diameter was 2.5 inches in 1999 and 2.8 inches in 2004. In 2004, 65% of the trees sampled were classified as 4 feet tall or shorter. Utah juniper density was 46 trees/acre in 1999 and 51 trees/acre in 2004. Mean diameter was about 2 inches in both 1999 and 2004. Increased density and cover of pinyon and juniper may result in reduced production for the herbaceous understory and palatable browse species. A thinning treatment would be good for this site before canopy cover for pinyon gets beyond 15%. This is where it begins to exhibit more noticeable negative effects on the herbaceous understory (Tausch and West 1994).

Grass species show moderate diversity, but only fair forage production. The most common grass species are: blue grama, sedge, needle-and-thread, and bottlebrush squirreltail which could provide some spring-fall forage. Utilization appeared moderate from the recent cattle grazing in 1994. Nested frequency has been stable for most species, except blue grama which has slowly declined since 1994. Overall, sum of nested frequency declined slightly for perennial grasses. Forbs are fairly common in the bottom and under the

protective cover of sagebrush. However, none are very valuable as forage and several are low value increasers. All the forbs together provide little forage and only provide 2% to 5% cover. Nested frequency of forbs declined by over half in 2004.

1985 APPARENT TREND ASSESSMENT

Aside from the small washes on the flat, the soil appears stable. The bitterbrush population appears to be increasing with a very high percentage of seedlings and young and few decadent plants. The black sagebrush appears to be slightly decreasing.

1991 TREND ASSESSMENT

There are still signs of soil movement, e.g. loss of pavement cover mostly due to soil movement. There was an increase in vegetative basal cover. The trend for soil is slightly down at this time. Both key browse species (black sagebrush and bitterbrush) have increased their respective densities. Bitterbrush has almost doubled in density with a increase in percent decadency from 3 to 36%. Most of the more important grass and forb species have also shown a slight increase nested and quadrat frequency, but not enough to warrant an up change in trend.

TREND ASSESSMENT
soil - slightly down (2)
browse - slightly up (4)
herbaceous understory - stable (3)

1994 TREND ASSESSMENT

There is continuing signs of some soil movement, especially on the steeper slopes. Percent bare ground has gone down from the reading of 1991 and even slightly lower than that of 1985. Percent litter cover has decreased, as it has throughout the state with the extended drought we have been experiencing. Soil trend is considered stable at this time. There are two key browse species on this site, black sagebrush and bitterbrush. The black sagebrush trend is up with increased densities, fairly stable rate of decadency, and decreasing use. The bitterbrush density has bounced around somewhat, but this could be partially explained because the plants are an ecotype that can reproduce by layering, which can make counting them difficult. Those that have been utilized moderately have now decreased to only 2%, while percent decadency has also decreased to only 3%. Browse trend for the key species is up. The herbaceous understory has noted decreases in nested frequency values for both perennial grasses and forbs. Trend for the understory is slightly down. The Desirable Components Index (see methods) rating is poor to fair due to lack of understory production and poor browse reproduction.

TREND ASSESSMENT
soil - stable (3)
browse - up (5)
herbaceous understory - slightly down (2)
winter range condition (DC Index) - 53 (poor to fair) Mountain brush type

1999 TREND ASSESSMENT

There is continuing signs of some soil movement, especially on the steeper slopes. Percent bare ground has continued to go down from the reading of 1991. It is now at its lowest value since the study began in 1985. Percent litter cover has increased substantially with increases in precipitation. Soil trend is considered slightly improved at this time. There are two key browse species on this site, black sagebrush and bitterbrush. The

black sagebrush trend is stable. Density and decadency are stable, while use continues to decrease. The bitterbrush density has bounced around somewhat, but this can mostly be explained because the plants are an ecotype that can reproduce by layering, which can make counting their density difficult. But, those that have been utilized moderately has fluctuated from year to year with no notable harm. Browse trend for the key species is stable. The herbaceous understory trend has stabilized. The sum of nested frequency has stabilized, while percent cover for the herbaceous understory has increased with increases in precipitation.

TREND ASSESSMENT
soil - slightly improving (4)
browse - stable (3)
herbaceous understory - stable (3)
winter range condition (DC Index) - 73 (fair to good) Mountain brush type

2004 TREND ASSESSMENT

The soil trend is fairly stable as the ratio of bare ground to protective cover (vegetation, litter, and bare ground) increased from 1:2.7 in 1994 to 1:3.8 in 2004. Bare ground cover has remained stable at about 7 or 8% relative cover. Erosion was classified as stable in 2004. The browse trend is stable for bitterbrush as cover and strip frequency has remained stable. Density is higher, but the prostate growth form makes counting problematic as it is difficult to differentiate between individuals. Use has increased without detrimental effects. Black sagebrush density and cover is down, but percent decadency has remained stable. Broom snakeweed density is substantially higher and cover has increased. Pinyon and juniper density and cover has increased, which could be detrimental to other species in the long term. The overall browse trend is slightly down, but stable for the most important species, bitterbrush. The herbaceous understory trend is slightly down. Grasses are slightly down in frequency and cover, while forb abundance has dropped by more than half.

TREND ASSESSMENT
soil - stable (3)
browse - slightly down (2)
herbaceous understory - slightly down (2)
winter range condition (DC Index) - 61 (fair) Mountain brush type

HERBACEOUS TRENDS --
Management unit 25B, Study no: 5

Type	Species	Nested Frequency					Average Cover %		
		'85	'91	'94	'99	'04	'94	'99	'04
G	Agropyron smithii	$_{a}$-	$_{a}$-	$_{a}$3	$_{b}$16	$_{ab}$4	.03	.13	.07
G	Bouteloua gracilis	$_{bc}$106	$_{bc}$105	$_{c}$102	$_{ab}$72	$_{a}$61	1.81	1.50	1.33
G	Carex spp.	$_{b}$176	$_{b}$186	$_{a}$86	$_{a}$102	$_{a}$91	1.01	3.33	2.84
G	Festuca ovina	-	-	-	9	5	-	.21	.02
G	Oryzopsis hymenoides	-	-	-	-	-	-	-	.00
G	Poa fendleriana	$_{bc}$32	$_{abc}$20	$_{c}$35	$_{ab}$7	$_{a}$6	.51	.10	.07
G	Sitanion hystrix	$_{bc}$152	$_{c}$180	$_{ab}$113	$_{a}$99	$_{a}$102	1.26	2.81	2.57
G	Sporobolus cryptandrus	-	-	7	-	-	.04	-	-
G	Stipa comata	$_{ab}$7	$_{a}$5	$_{ab}$7	$_{b}$32	$_{b}$30	.04	.94	1.77
G	Stipa spp.	$_{A}$-	$_{b}$18	$_{a}$-	$_{a}$-	$_{a}$-	-	-	-

Type	Species	Nested Frequency					Average Cover %		
		'85	'91	'94	'99	'04	'94	'99	'04
G	Stipa lettermani	-	-	-	5	-	-	.30	-
Total for Annual Grasses		0	0	0	0	0	0	0	0
Total for Perennial Grasses		473	514	353	342	299	4.73	9.34	8.71
Total for Grasses		473	514	353	342	299	4.73	9.34	8.71
F	Alyssum alyssoides (a)	-	-	-	-	2	-	-	.00
F	Antennaria parvifolia	$_{b}$6	$_{a}$1	$_{a}$-	$_{a}$-	$_{a}$-	-	-	-
F	Antennaria rosea	-	-	3	-	1	.01	-	.03
F	Androsace septentrionalis (a)	-	-	-	1	1	-	.00	.03
F	Arabis demissa	12	11	2	15	3	.00	.17	.04
F	Artemisia dracunculus	-	-	-	-	1	-	-	.00
F	Artemisia ludoviciana	4	6	-	1	-	-	.00	-
F	Astragalus convallarius	3	-	-	-	-	-	-	-
F	Aster spp.	-	8	-	3	7	-	.00	.07
F	Astragalus spp.	4	-	7	-	2	.01	-	.03
F	Castilleja chromosa	-	5	1	-	-	.00	-	-
F	Chenopodium album (a)	-	-	-	2	-	-	.00	-
F	Chaenactis douglasii	6	5	1	-	2	.00	-	.00
F	Comandra pallida	$_{b}$13	$_{b}$7	$_{b}$16	$_{b}$14	$_{a}$-	.18	.42	-
F	Cryptantha spp.	$_{a}$15	$_{a}$14	$_{b}$40	$_{a}$14	$_{a}$6	.32	.07	.04
F	Cymopterus spp.	-	4	-	-	-	-	-	-
F	Descurainia pinnata (a)	-	-	-	9	-	-	.02	-
F	Eriogonum alatum	$_{a}$-	$_{a}$3	$_{a}$-	$_{a}$7	$_{b}$8	-	.12	.12
F	Eriogonum cernuum (a)	-	-	1	-	-	.00	-	-
F	Erigeron pumilus	$_{b}$37	$_{ab}$15	$_{ab}$21	$_{ab}$16	$_{a}$7	.10	.11	.02
F	Eriogonum racemosum	24	22	17	28	18	.04	.53	.27
F	Gayophytum ramosissimum(a)	-	-	1	7	2	.00	.06	.01
F	Hymenoxys richardsonii	$_{ab}$9	$_{a}$5	$_{b}$24	$_{a}$14	$_{a}$3	.41	.45	.03
F	Lepidium spp. (a)	-	-	$_{a}$-	$_{b}$8	$_{a}$2	-	.02	.00
F	Lithospermum incisum	-	-	-	-	-	.00	-	-
F	Lupinus argenteus	1	-	-	-	-	-	-	-
F	Lygodesmia spinosa	$_{b}$55	$_{b}$58	$_{ab}$32	$_{a}$24	$_{a}$24	.70	1.16	.71
F	Machaeranthera canescens	$_{a}$3	$_{ab}$8	$_{a}$5	$_{b}$25	$_{a}$2	.04	.20	.03
F	Microsteris gracilis (a)	-	-	-	-	12	-	-	.04
F	Oenothera spp.	-	-	1	-	-	.00	-	-
F	Penstemon humilis	-	1	3	3	4	.03	.03	.03
F	Phlox longifolia	9	24	10	14	4	.03	.06	.01

Type	Species	Nested Frequency					Average Cover %		
		'85	'91	'94	'99	'04	'94	'99	'04
F	Polygonum douglasii (a)	-	-	3	1	3	.01	.00	.00
F	Potentilla spp.	-	1	-	-	-	-	-	-
F	Senecio multilobatus	$_{b}$25	$_{a}$1	$_{a}$1	$_{c}$62	$_{b}$19	.00	1.71	.19
F	Sphaeralcea coccinea	3	-	1	3	2	.03	.03	.03
F	Taraxacum officinale	-	5	-	3	-	-	.00	-
F	Tragopogon dubius	-	3	-	3	4	-	.00	.01
F	Unknown forb-perennial	2	-	-	-	-	-	-	-
F	Zigadenus paniculatus	1	-	-	-	-	-	-	-
Total for Annual Forbs		0	0	5	28	22	0.01	0.12	0.10
Total for Perennial Forbs		232	207	185	249	117	1.94	5.10	1.70
Total for Forbs		232	207	190	277	139	1.96	5.23	1.80

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --
Management unit 25B, Study no: 5

Type	Species	Strip Frequency			Average Cover %		
		'94	'99	'04	'94	'99	'04
B	Artemisia nova	98	95	91	15.72	14.35	9.55
B	Artemisia tridentata vaseyana	3	10	14	.53	.84	.93
B	Ceratoides lanata	2	2	2	.00	.00	.00
B	Chrysothamnus depressus	15	15	24	.12	.15	.40
B	Chrysothamnus nauseosus	9	10	16	.72	.09	.71
B	Chrysothamnus viscidiflorus lanceolatus	54	46	46	1.80	1.43	1.33
B	Coryphantha vivipara arizonica	0	0	1	-	-	-
B	Gutierrezia sarothrae	23	16	41	.10	.16	1.71
B	Juniperus osteosperma	0	2	3	-	.63	.15
B	Opuntia spp.	4	4	4	.18	.15	.15
B	Pediocactus simpsonii	0	3	8	-	.00	-
B	Pinus edulis	0	13	19	4.33	5.49	7.28
B	Purshia tridentata	47	47	48	10.00	15.23	13.23
B	Symphoricarpos oreophilus	5	7	5	-	.41	.38
B	Tetradymia canescens	20	28	25	.44	.79	.85
B	Yucca spp.	0	0	1	-	-	.03
Total for Browse		280	298	348	33.96	39.76	36.74

CANOPY COVER, LINE INTERCEPT --
Management unit 25B, Study no: 5

Species	Percent Cover	
	'99	'04
Artemisia nova	-	9.26
Artemisia tridentata vaseyana	-	.63
Chrysothamnus depressus	-	.70
Chrysothamnus nauseosus	-	1.41
Chrysothamnus viscidiflorus lanceolatus	-	2.75
Gutierrezia sarothrae	-	1.25
Juniperus osteosperma	-	1.46
Opuntia spp.	-	.48
Pinus edulis	5.00	12.68
Purshia tridentata	-	18.33
Symphoricarpos oreophilus	-	.75
Tetradymia canescens	-	.61
Yucca spp.	-	.03

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 25B, Study no: 5

Species	Average leader growth (in)
	'04
Artemisia nova	1.3
Artemisia tridentata vaseyana	3.7
Purshia tridentata	5.3

POINT-QUARTER TREE DATA --
Management unit 25B, Study no: 5

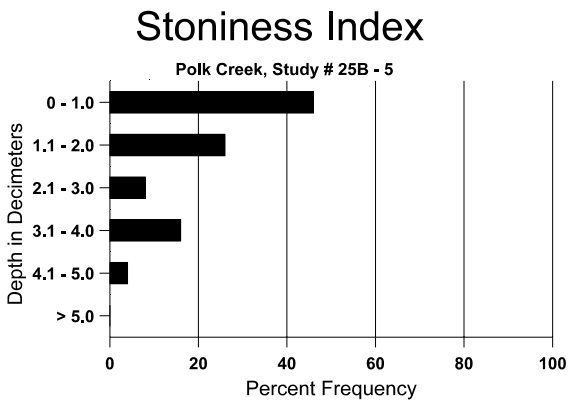
Species	Trees per Acre		Average diameter (in)	
	'99	'04	'99	'04
Juniperus osteosperma	46	51	2.0	2.1
Pinus edulis	199	236	2.5	2.8
Pinus ponderosa	19	-	5.9	-

BASIC COVER --
Management unit 25B, Study no: 5

Cover Type	Average Cover %				
	'85	'91	'94	'99	'04
Vegetation	8.75	11.00	38.57	48.68	42.66
Rock	4.75	6.25	17.39	18.85	18.57
Pavement	17.25	7.75	9.53	8.58	10.69
Litter	54.25	53.50	30.89	43.84	38.29
Cryptogams	0	.75	.05	.15	.11
Bare Ground	15.00	20.75	13.78	8.48	9.40

SOIL ANALYSIS DATA --
Management unit 25B, Study no: 5, Study Name: Polk Creek

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	ds/m
11.2	52.0 (11.2)	6.8	53.8	22.5	23.6	2.2	12.7	198.4	0.5



PELLET GROUP DATA --
Management unit 25B, Study no: 5

Type	Quadrat Frequency		
	'94	'99	'04
Rabbit	23	32	15
Elk	7	2	3
Deer	23	9	23
Cattle	4	7	-
Moose	-	-	-

Days use per acre (ha)	
'99	'04
-	-
1 (2)	5 (12)
20 (49)	66 (162)
7 (18)	6 (14)
-	1 (2)

BROWSE CHARACTERISTICS --
Management unit 25B, Study no: 5

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Artemisia nova												
85	**6732**	933	600	3666	2466	-	46	22	37	3	14	7/9
91	**7466**	133	1600	3333	2533	-	29	2	34	4	13	8/14
94	**9120**	5120	460	5560	3100	600	7	0	34	9	9	10/21
99	**9160**	800	1500	4600	3060	2000	20	2	33	11	11	11/19
04	**6580**	1140	560	3800	2220	2100	9	0	34	20	20	9/16
Artemisia tridentata vaseyana												
85	**0**	-	-	-	-	-	0	0	0	-	0	-/-
91	**266**	-	-	66	200	-	0	0	75	-	0	11/7
94	**100**	-	-	100	-	-	0	0	0	-	0	21/30
99	**300**	40	100	180	20	-	7	0	7	-	0	20/27
04	**360**	240	80	200	80	220	22	0	22	11	11	15/20
Ceratoides lanata												
85	**0**	-	-	-	-	-	0	0	0	-	0	-/-
91	**0**	-	-	-	-	-	0	0	0	-	0	-/-
94	**60**	-	-	60	-	-	0	0	0	-	0	6/4
99	**100**	-	-	80	20	-	20	80	20	-	0	5/6
04	**80**	-	40	20	20	-	0	50	25	25	25	5/5
Chrysothamnus depressus												
85	**1466**	-	66	1000	400	-	5	0	27	-	5	3/6
91	**2533**	-	333	600	1600	-	32	42	63	3	11	3/6
94	**420**	-	-	420	-	-	0	0	0	-	0	5/10
99	**480**	-	20	460	-	-	21	25	0	-	0	4/7
04	**720**	-	-	660	60	-	17	42	8	8	8	7/11
Chrysothamnus nauseosus												
85	**0**	-	-	-	-	-	0	0	0	-	0	-/-
91	**0**	-	-	-	-	-	0	0	0	-	0	-/-
94	**240**	-	-	120	120	-	0	0	50	8	8	15/19
99	**220**	-	40	120	60	-	9	9	27	-	0	22/28
04	**500**	-	100	260	140	-	16	0	28	20	20	17/18

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Chrysothamnus viscidiflorus lanceolatus												
85	**866**	66	66	800	-	-	0	0	0	-	0	7/5
91	**66**	-	-	66	-	-	0	0	0	-	0	4/13
94	**2120**	60	100	1960	60	-	0	0	3	-	0	18/27
99	**1740**	120	80	1600	60	20	1	0	3	1	1	10/15
04	**2060**	60	280	1680	100	-	8	0	5	3	3	11/15
Coryphantha vivipara arizonica												
85	**0**	-	-	-	-	-	0	0	-	-	0	-/-
91	**0**	-	-	-	-	-	0	0	-	-	0	-/-
94	**0**	-	-	-	-	-	0	0	-	-	0	-/-
99	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**20**	-	-	20	-	-	0	0	-	-	0	2/2
Echinocereus spp.												
85	**0**	-	-	-	-	-	0	0	-	-	0	-/-
91	**0**	-	-	-	-	-	0	0	-	-	0	-/-
94	**0**	-	-	-	-	-	0	0	-	-	0	-/-
99	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**0**	-	-	-	-	-	0	0	-	-	0	5/19
Gutierrezia sarothrae												
85	**4932**	-	400	3866	666	-	1	0	14	-	1	6/4
91	**1399**	-	600	733	66	-	19	0	5	-	0	4/5
94	**920**	100	480	440	-	-	0	0	0	-	0	5/5
99	**580**	360	40	540	-	-	0	0	0	-	0	7/8
04	**2260**	20	200	2060	-	-	0	0	0	-	0	8/9
Juniperus osteosperma												
85	**0**	-	-	-	-	-	0	0	-	-	0	-/-
91	**0**	-	-	-	-	-	0	0	-	-	0	-/-
94	**0**	-	-	-	-	-	0	0	-	-	0	-/-
99	**40**	-	40	-	-	-	0	0	-	-	0	-/-
04	**60**	-	40	20	-	-	0	0	-	-	0	-/-
Opuntia spp.												
85	**399**	-	333	66	-	-	0	0	-	-	0	1/5
91	**333**	-	-	333	-	-	0	0	-	-	0	4/5
94	**120**	-	60	60	-	-	0	17	-	-	0	3/6
99	**80**	-	-	80	-	-	0	0	-	-	0	5/16
04	**200**	-	40	160	-	-	0	0	-	-	0	5/18

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Pediocactus simpsonii												
85	**0**	-	-	-	-	-	0	0	-	-	0	-/-
91	**0**	-	-	-	-	-	0	0	-	-	0	-/-
94	**0**	-	-	-	-	-	0	0	-	-	0	2/3
99	**60**	-	40	20	-	-	0	0	-	-	0	-/-
04	**220**	-	60	160	-	-	0	0	-	-	0	3/3
Pinus edulis												
85	**332**	266	266	66	-	-	0	0	-	-	0	69/128
91	**333**	333	200	133	-	-	0	0	-	-	0	81/87
94	**0**	-	-	-	-	-	0	0	-	-	0	-/-
99	**260**	200	180	80	-	-	0	0	-	-	0	-/-
04	**460**	20	320	140	-	-	0	0	-	-	13	-/-
Purshia tridentata												
85	**1865**	1000	666	1133	66	-	36	46	4	-	4	13/41
91	**3065**	333	266	1666	1133	-	33	22	37	-	0	7/21
94	**2520**	40	-	2440	80	-	2	2	3	-	0	12/36
99	**1840**	20	180	1480	180	120	30	38	10	7	7	15/43
04	**2800**	-	-	2340	460	80	46	49	16	12	12	16/38
Rhus trilobata												
85	**66**	-	-	66	-	-	100	0	-	-	0	12/20
91	**66**	-	-	66	-	-	100	0	-	-	0	18/23
94	**0**	-	-	-	-	-	0	0	-	-	0	-/-
99	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**0**	-	-	-	-	-	0	0	-	-	0	-/-
Symphoricarpos oreophilus												
85	**0**	-	-	-	-	-	0	0	-	-	0	-/-
91	**0**	-	-	-	-	-	0	0	-	-	0	-/-
94	**120**	-	20	100	-	-	0	0	-	-	0	13/23
99	**140**	-	-	140	-	-	29	0	-	-	0	19/26
04	**140**	-	20	120	-	-	0	0	-	-	0	11/21
Tetradymia canescens												
85	**866**	-	200	466	200	-	0	0	23	-	0	5/4
91	**998**	-	66	666	266	-	27	0	27	-	0	7/4
94	**480**	-	40	400	40	20	0	0	8	4	4	9/11
99	**700**	-	140	460	100	-	14	3	14	3	3	9/10
04	**600**	20	100	440	60	-	23	0	10	3	3	10/13

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Yucca spp.												
85	**0**	-	-	-	-	-	0	0	-	-	0	-/-
91	**0**	-	-	-	-	-	0	0	-	-	0	-/-
94	**0**	-	-	-	-	-	0	0	-	-	0	-/-
99	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**20**	-	20	-	-	-	0	0	-	-	0	-/-